

**REMARKS**

Reconsideration and withdrawal of the rejections of the application are respectfully requested in view of the above amendments and following remarks.

**I. STATUS OF THE CLAIMS AND FORMAL MATTERS**

Claims 1-13 are currently pending. Claims 1-13 are rejected. Claims 1-13 have been canceled without prejudice or disclaimer. Claims 14-27 are new.

**II. THE OBJECTIONS TO THE SPECIFICATION**

Paragraphs [0012] and [0013] have been amended to remove references to the claims to obviate the Examiner's objection.

With regard to the Examiner's objection to the words "No figure for the abstract" in the Abstract, Applicants are unable to find any such wording.

**III. THE REJECTIONS UNDER 35 U.S.C. § 112 and 35 U.S.C. § 101**

Claims 1-13 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claims 1-13 have been canceled. Similarly, claim 1 was rejected under 35 U.S.C. § 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process. Claim 1 has been canceled.

#### IV. THE REJECTIONS UNDER 35 U.S.C. § 103(a)

Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. Nos. 6,402,990 B1 and 6,712,995 B2 to Marazzani et al. ("Marazzani") in view of U.S. Pat. App. No. 2005/0258401 A1 to Lane et al. ("Lane").

As recited in independent claim 14, the instant invention is directed to *inter alia*:

A method of treating a structure comprising:

"a cement-based product and steel rebars, said method inhibiting rebar corrosion and product degradation due to alkali reactions and to presence of alkalis and sulfates in said structure, said method comprising the following step:

a composition containing lithium glycerophosphate is applied to said structure."

As understood by Applicants, Marazzani teaches a method for inhibiting corrosion of steel reinforcement in concrete using a composition comprising an amino or hydroxyalkylamino compound **partially or completely neutralised** with an acid selected from a group comprising more than 30 compounds, said group comprising among others glycerophosphoric acid.

Applicants submit that said glycerophosphoric acid is **not in the free state** in said composition, but in the form of an **ester of said amino or hydroxyalkylamino compound**. A composition according to the teaching of Marazzani thus comprises said ester and possibly some amino or hydroxyalkylamino compound in excess.

On the contrary, the present invention makes use of the lithium **salt** of glycerophosphoric acid and does not make any use of an amino or hydroxyalkylamino compound.

It is known to those skilled in the art that esters are organic compounds which are **not** dissociated into cathions and anions. On the contrary, the lithium salt is dissociated into ions in solution, and has therefore quite different physico-chemical properties.

Marazzani (in U.S. Pat. No. 6,402,990 B1) teaches at col.6, lines 53-61 to operate a careful selection of the amino or hydroxyalkylamino compound in view of their unique physico-chemical properties. In other words, according Marazzani, the use of an amino or hydroxyalkylamino compound is essential.

Applicants submit that, accordingly, Marazzani teaches away from the idea of replacing an amino or hydroxyalkylamino compound by a Li<sup>+</sup> cation. Applicants further submit that the above mentioned passage of Marazzani teaches away from combining it with the Lane reference.

The specification of the present invention states at page 3, lines 20-21, that lithium glycerophosphate has a much greater penetrability into concrete than that of the known inhibitors. In particular, the penetrability of Li glycerophosphate is much greater than the penetrability of the di-sodium beta salt. Applicants submit that this property was unexpected and unpredictable.

The Na<sup>+</sup> ion does not have the capability to displace Ca in concrete. Thus, Na does not inhibit the alkali reaction; on the contrary, it enhances said reaction. Thus, one skilled in the art would not have been motivated to combine the Lane reference with the Marazzani reference upon trying to inhibit said reaction.

Lane specifically teaches the use of Li nitrate. Lane does not teach nor suggest using Li glycerophosphate instead of the nitrate, despite the fact that it cites Na glycerophosphate among the comparative inhibitors of the prior art. Therefore, Applicants submit that such substitution is not obvious to one of ordinary skill in the art. Applicants respectfully submit that the analysis based on this reference, as made by the Examiner, is a typical hindsight analysis.

For at least the foregoing reasons, Applicants submit that independent claim 1 is patentable over the relied upon portions of Marazzani and Lane. For the same, or similar

reasons, independent claims 20 and 22 are patentable over the relied upon portions of Marazzani and Lane.

## **IX. DEPENDENT CLAIMS**

The other claims in this application are each dependent on an independent claim discussed above, and are therefore believed patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

## **X. INFORMATION DISCLOSURE STATEMENT**

With regard to the Examiner's refusal to consider the references cited in the Information Disclosure Statement which was filed with the application, Applicants wish to point out that the references were originally cited in the International Search Report by the European Patent Office. Since this application is a 371 filing of an international application and the European Patent Office acted as the International Searching Authority, it is the undersigned's understanding that Applicants are not required to provide copies of the references cited in the search report as they have already been provided by the International Bureau. If this is not correct, please advise. Applicants have enclosed a duplicate copy of the Form 1449 so that the Examiner may initial the form to indicate that the references have been considered.

## **CONCLUSION**

In view of the foregoing, it is believed that all of the claims in this application are patentable over the prior art, and an early and favorable consideration thereof is solicited.

Statements appearing above with respect to the disclosures in the cited references represent the present opinions of the Applicants' undersigned attorney and, in the event that the Examiner disagrees with any such opinions, it is respectfully requested that the Examiner specifically indicate those portions of the respective reference providing the basis for a contrary view.

Please charge any fees incurred by reason of this response and not paid herewith to  
Deposit Account No. 50-0320.

Respectfully submitted,  
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